CHAPTER 10. FALL PROTECTION PROGRAM

1000. GENERAL. The purpose of a fall protection program is to protect employees working at elevated heights from injuries or death due to a fall. The Department of Labor lists falls as one of the leading causes of traumatic occupational death, and OSHA estimates that there are at least 68,000 fall-related injuries annually in the construction industry alone. Fall protection standards are outlined in OSHA General Industry Standards under 29 CFR 1910.23 - 1910.29 and in OSHA Construction Standards under 29 CFR 1926, Subpart M, Fall Protection, 29 CFR 1926.104, Safety Belts, Lifelines, and Lanyards, 29 CFR 1926.105, Safety Nets, and 29 CFR 1926.106, Working Over or Near Water. National consensus standards also provide guidelines for technical issues related to fall protection and elevated work surface exposures and associated controls. Figure 10-1, Cross References to OSHA and national consensus standards, contains a cross reference of applicable American National Standards Institute (ANSI) and American Society for Testing and Materials (ASTM) standards to OSHA.

1001. SCOPE. This chapter applies to all FAA personnel. This includes, but is not limited to, personnel performing work on elevated work sites, personnel involved in design and acquisition, etc.

1002. DEFINITIONS.

a. Competent person. A person who, because of training and experience, is capable of providing program oversight. This includes identifying hazardous conditions in personal fall arrest systems or any component thereof as well as in their application and use with related equipment. This person is considered an expert climber, and has a potential exposure to falls due to the complexity of work being performed at these heights.

b. Ladder safety system. An assembly of components whose function is to arrest the fall of a user, including the carrier and its associated attachment elements (brackets, fasteners, etc.), safety sleeve, body support and connectors, wherein the carrier is permanently attached to the climbing face of the ladder or immediately adjacent to the structure.

c. Personal fall arrest system. A system used to arrest an employee in a fall from a working level. It consists of an anchorage, connectors, a body harness, and may include a lanyard, deceleration device, lifeline, or suitable combinations of these.

d. Qualified person. An individual with a recognized degree or professional certificate and extensive knowledge and experience in the subject field, who is capable of design, analysis, evaluation, and specifications in the subject work, project, or product (e.g., structural engineers, designers). This person must be an expert climber if job duties require climbing.

e. Qualified climber. An individual who, by virtue of physical capabilities, training, work experience, and job assignments, climbs standard structures that meet OSHA standards and are equipped with appropriate fall protection to perform routine tasks, and the climber is constantly protected by attachment to a ladder safety device or by a guardrail. This person performs construction activity using ladders and scaffolds below 10 feet.

f. Expert climber. An individual who, by virtue of physical capabilities, training, work experience, and job assignments, climbs standard structures that are not equipped with climbing safety devices; performs work at elevated sites (i.e., platforms, antenna cross members, top or back of radar antennas, etc.) that do not meet OSHA standards for walking/working surfaces; or is required to perform construction activity above 10 feet (i.e., use of portable ladders or scaffolds). This person is considered a qualified climber.

1003. PROGRAM ELEMENTS. All FAA regions and centers, the NAS Implementation Engineering Center and Service Centers, and other region and center headquarters organizations who have employees exposed to fall hazards shall develop a fall protection program that includes the following elements:

a. Identification of Fall Hazards. Surveys of facilities shall be conducted and documented to identify fall hazards associated with all elevated work areas by persons who have received training and are qualified to identify and recognize such hazards.

b. Hazard Evaluation and Control.

(1) Existing and potential hazards of each elevated work surface shall be identified and procedures established by a competent person to ensure safe working conditions.

(2) Written fall protection procedures shall be developed to address non-routine (based upon employee risk and familiarity with operations) climbing operations or when the use of conventional fall protection systems are not feasible or create a greater hazard in use (e.g., during construction or modification of elevated work areas). The plan shall address applicable procedures like one-person and multi-person climbing operations, requirements for radio and/or telephone communications, special logistics for remote locations, and emergency rescue procedures. Fall protection procedures for construction-related activity must conform with the requirements of 29 CFR 1926.502.

c. Engineering Assessments. All elevated work surfaces shall be designed, constructed, and maintained to ensure that they support their maximum intended load. When surveys identify potential deficiencies with a structure or system, a determination shall be made by a qualified person to ensure that the surface has the strength and structural integrity to support employees working on them. When exposure to a fall hazard cannot be prevented through engineering controls (e.g., platforms, guardrails) or the use of elevated work platforms, fall arrest equipment shall be used. A qualified person shall evaluate modifications or installations of fall arrest systems to elevated work structures to ensure that the fall arrest systems perform as intended.

d. Selection of Equipment.

(1) Selection of fall protection equipment shall be approved by a competent or qualified person. All equipment shall meet applicable OSHA and ANSI standards and must be suitable for the work intended.

(2) Cages and wells. On fixed ladders installed later than 1 year following the effective date of this order, cages and wells are prohibited on fixed ladder installations over 20 feet in length, unless it can be shown by a competent person that they are the only feasible means of protection.

(3) Personal Fall Arrest System (PFAS). Personal fall arrest systems shall meet applicable OSHA and ANSI requirements and shall be selected by competent persons to match the particular work conditions and environment. Full body harnesses shall be worn unless alternative protection is approved by a competent person. Body belts are not acceptable as part of PFAS.

(4) The following factors shall be considered when selecting equipment and systems:

(a) Maintenance requirements.

(b) Performance specifications.

(c) Ease of use and worker productivity.

(d) Environmental conditions.

(e) Installation (e.g., anchorage points, structural integrity).

e. Maintenance and Inspection.

(1) All equipment and systems shall be inspected and maintained in accordance with manufacturer's specifications and OSHA and ANSI standards.

(2) Any PFAS with signs of damage, impact loading, or significant component defect shall be withdrawn from service immediately and evaluated for serviceability by a competent person or replaced.

(3) Maintenance and inspection activities shall be documented.

(4) All equipment and systems should be thoroughly inspected before each use.

f. Training and Qualifications.

(1) Employees shall receive training to recognize the hazards associated with elevated work surfaces and fall hazards in their area of operation and the procedures to follow to minimize these. Training shall be conducted by a competent person in accordance with OSHA regulations, ANSI requirements, and the manufacturer's instructions. The level of training shall be consistent with an employee's job assignment as a qualified climber, expert climber, competent person, or qualified person. Figure 10-2, FAA Elevated Work Surface Job Categories, summarizes requirements for each level of climber.

(2) Refresher training shall be conducted whenever an employee who has already been trained does not have the understanding or demonstrated skill required by this chapter (e.g., due to changes in the workplace or changes in the types of fall protection systems or equipment to be used).

(3) All training shall be properly documented in the agency's official training information system. Documentation shall include a written certification record that contains the name or other identifier of the employee trained, the date(s) of the training, and the signature of the competent person who performed the training.

(4) Employees shall be physically capable of performing assigned job duties and shall receive medical evaluations consistent with AAM guidance.

g. Emergency Rescue Procedures. Emergency and rescue procedures, consistent with the nature of the operations and the conditions of the elevated space, shall be established to rescue an employee should an emergency occur. Procedures shall include methods for summoning rescue and emergency services, for rescuing employees from heights, and for providing necessary medical services in a timely fashion.

h. Facilities, Systems, and Equipment Acquisitions. Fall protection requirements shall be incorporated as early as possible in all design, construction, renovation, maintenance, and other projects and programs. New facilities shall have fall protection meeting OSHA requirements built in to the system (e.g., approved tie-off points are permanently identified prior to commissioning). A qualified person or a competent person and, as appropriate, planners and engineers shall ensure designs and plans properly indicate location and type of fall arrest systems to be installed and that approved tie-off points are permanently identified prior to commissioning.

i. Contracts.

(1) All contracts issued for work involving elevated surfaces must contain a provision that contractors must have a fall protection program in accordance with OSHA and state requirements. Safety programs shall be submitted in accordance with contract requirements.

(2) Contractors must provide their own appropriate fall arrest equipment and training. FAA will not issue fall protection equipment to contractors.

1004-1099. RESERVED.

Figure 10-1. CROSS REFERENCES TO OSHA & NATIONAL CONSENSUS STANDARDS

Subject Area	OSHA Standard 29 CFR	National Consensus Standard
Ladders	1910.25 Portable Wood Ladders 1910.26 Portable Metal Ladders 1910.27 Fixed Ladders	ANSI A14.1, Safety Requirements for Portable Wood Ladders ANSI A14.2, Safety Requirements for Portable Metal Ladders ANSI A14.3, Safety Requirements for Fixed Ladders ANSI A14.4, Safety Requirements for Job-Made Ladders ANSI A14.5, Safety Requirements for Portable Reinforced Plastic Ladders
Step Bolts and Manhole Steps	1910.27 Fixed Ladders	ASTM C478, Specifications for Precast Reinforced Concrete Manhole Sections ASTM A394, Specifications for Quenched and Tempered Alloy Steel Bolts, Studs, and Other Externally Threaded Fasteners
Stairs	1910.24 Fixed Industrial Stairs	ANSI A64.1, Requirements for Fixed Industrial Stairs
Ramps and Bridging Devices	1910.30 Other Working Surfaces 1910.37 Means of Egress, General	ANSI MH14.1, Industrial Loading Dock Levelers and Dockboards
Work Surfaces	1910.23 Guarding Floor and Wall Openings and Holes	ANSI A58.1, Minimum Design Loads for Buildings and Other Structures ANSI A12.1, Safety Requirements for Floor and Wall Openings, Railings, and Toeboards
Scaffolds	1910.29 Manually Propelled Mobile Ladder Stands and Scaffolds (towers) 1910.28 Safety Requirements for Scaffolds	ANSI A92.1, Manually Propelled Mobile Ladder Stands ANSI A10.8, Safety Requirements for Scaffolds
Mobile Elevating Work Platforms, Mobile Ladder Stands, and Powered Industrial Truck Platforms	1910.66 Powered Platforms for Building Maintenance 1910.67 Vehicle-Mounted Elevating and Rotating Work Platforms	ANSI A92.3, Manually Propelled Elevating Work Platforms ANSI A92.1, Manually Propelled Mobile Ladder Stands

Subject Area	OSHA Standard 29 CFR	National Consensus Standard
Fall Protection Systems	1926 Subpart M, Parts: 1926.500 Scope, Application, and Definitions 1926.501 Duty To Have Fall Protection 1926.502 Fall Protection Systems Criteria and Practices 1926.503 Training 1926.105 Safety Nets 1926.106 Working Over or Near Water 1910 Standards: 1910.23 Guarding Floor and Wall Openings and Holes 1910.24 Fixed Industrial Stairs 1910.27 Fixed Ladders 1910.28 Safety Requirements for Scaffolding 1910.67 Vehicle-Mounted Elevating and Rotating Work Platforms 1910.268 Telecommunications	ANSI A10.11, Construction and Demolition Operations - Personnel and Debris Nets ANSI A10.14, Requirements for Safety Belts, Harnesses, Lanyards, Lifelines, and Drop Lines for Construction and Industrial Use ANSI A12.1, Safety Requirements for Floor and Wall Openings, Railings, and Toeboards ANSI A39.1, Safety Requirements for Window Cleaning ANSI Z359.1, Safety Requirements for Personal Fall Arrest Systems, Subsystems, and Components

Figure 10-2. FAA ELEVATED WORK SURFACE JOB CATEGORIES

How to use this table: Read down the duties column and then select the category furthest down the table in which the employee has one or more duties. That is the minimum level of job category to which the employee must be trained.

CATEGORY	DUTIES	PREREQUISITES
Qualified Climber: Is a person who performs any of the duties specified for this category and has successfully completed the Qualified Climber training	Climbs structures that are 50 feet or less in height. Structures meet OSHA standards. Maintenance tasks performed. Climber always be protected by attachment to a ladder safety device or guardrail.	
Expert Climber: Is a person who performs any of the duties specified for this category. Then, after meeting the prerequisites identified, has successfully completed Expert Climber training. Note: He/she may also be assigned duties specified for the Qualified Climber.	Maintenance tasks performed. Structures more than 50 feet in height. Structure may not meet OSHA standards. Performs construction work, if job duties require regardless of height. Conducts basic elevated work surface inspections, if job duties require.	Physically capable Has successfully completed Qualified Climber training
Competent Person: Is a person who performs any of the duties specified for this category. Then, after meeting the prerequisites identified, has successfully completed Competent Person training. He/she may also be assigned duties specified for the Qualified and/or Expert Climber categories.	Provides program oversight, if job duties require. Selects equipment and systems, if job duties require. Inspects fall protection equipment and systems, if job duties require. Heavy exposure to falls; majority of work performed at heights, if job duties require.	Physically capable Has successfully completed Qualified Climber training Has successfully completed Expert Climber training, if job duties require climbing
Qualified Person: Is a person who performs any of the duties specified for this category. Then, after meeting the prerequisites identified, has successfully completed Qualified Person training. He/she may also be assigned duties specified for the Qualified Climber and/or Expert Climber and/or Competent Person categories.	May have program oversight, if FAA employee. Degreed (i.e., structural or equivalent engineering degree) or holds professional certification in fall protection-related disciplines. Extensive knowledge. Capable of design, analysis, and evaluation. Develops specifications related to work on elevated surfaces and the associated fall protection systems.	Physically capable Has successfully completed Qualified Climber training Has successfully completed Expert Climber training, if job duties require climbing Has successfully completed Competent Person training